

### **Substantiation of Invention Applicability for Industrial Purposes**

According to the above mentioned example of one of the best implementation versions, which are presented by the applicant, it stands to reason, how the described method of hydrogen production using the Earth mantle substance can be applied to produce cheap and efficient energy resources, hydrogen in particular, which can be applied as energy carrier for power industry and transport, or for industry and civil buildings heating.

### **Formula of Invention**

1. The method of using the Earth mantle substance to produce hydrogen, including an exploration of continental and oceanic rifting areas, supported by abnormal mantle diapirs with the mantle substance fingers outlet, the mantle substance well drilling, and hydrogen gas extraction out of the well, which is a result of a reaction of water with intermetallic compounds, contained in the mantle substance, is different in the following details: after the well inlet into the mantle substance, a reaction cavity is formed in it, hydrogen release is controlled by change of water volume in reaction cavity, meanwhile reaction cavity surface, involved in reaction, is regenerated periodically.

2. The method, according to the item 1, is different as wells drilling is performed with help of turbodrills.

3. The method, according to the item 1 or 2, is different as an additional well is drilled and a reaction cavity is formed by linkage of the main and additional wells.

4. The method, according to the item 1 or 2, is different as a reaction cavity is formed by reaming the main and/or additional wells.

5. The method, according to the item 1 or 4, is different as the well reaming is performed by explosion of explosive materials.

6. The method, according to any of the items 1 - 5, is different as regeneration of a surface, which takes part in reaction, is performed by high-pressure water flow.

7. The method, according to any of six items, is different as high-pressure water flow is supplied through nozzles, installed in reaction cavity, at remotely controlled manipulator system.

8. The method, according to any of the items 1-7, is different as a separator is installed in the well or at outlet to divide generated hydrogen gas and water vapors.

9. The method, according to any of the items 1-8, is different as the heat energy, discharged during hydrogen production, is utilized.